

CLAIMS

What is claimed is:

- 1 1. A magnetic head having an air bearing surface (ABS), comprising:
2 a first pole tip having an upper end;
3 a second pole tip having a bottom end spaced apart from and facing the upper end
4 of the first pole tip; and
5 a bump extending into a portion of the upper end of the first pole tip and a portion
6 of the bottom end of the second pole tip, the bump being positioned away
7 from the ABS.

- 1 2. The head as recited in claim 1, wherein the bump defines a throat height of the
2 first and second pole tips.

- 1 3. The head as recited in claim 1, wherein the bump has a generally circular shape.

- 1 4. The head as recited in claim 1, wherein the bump has a generally oval shape.

- 1 5. The head as recited in claim 1, wherein the bump has a generally trapezoidal
2 shape.

- 1 6. The head as recited in claim 1, wherein the bump tapers together towards the
2 ABS.
- 1 7. The head as recited in claim 1, wherein the bump extends in a direction away
2 from the ABS about to a back gap of the magnetic head.
- 1 8. The head as recited in claim 1, wherein the bump is constructed of a nonmagnetic
2 material.
- 1 9. The head as recited in claim 8, wherein the bump is constructed of alumina.
- 1 10. The head as recited in claim 8, wherein the bump is constructed of a nonmagnetic
2 metal.
- 1 11. The head as recited in claim 10, wherein the nonmagnetic metal is electrically
2 conductive.
- 1 12. The head as recited in claim 8, wherein the bump is constructed of cured resist.
- 1 13. The head as recited in claim 1, wherein the bump is formed using a dry process.
- 1 14. The head as recited in claim 13, wherein the bump is formed by deposition.

1 15. A magnetic head having an air bearing surface (ABS), comprising:
2 a first pole tip having an upper end;
3 a second pole tip having a bottom end spaced apart from and facing the upper end
4 of the first pole tip; and
5 a bump extending into a portion of the upper end of the first pole tip and a portion
6 of the bottom end of the second pole tip, the bump being positioned away
7 from the ABS, the bump being constructed of a nonmagnetic material,
8 wherein the bump defines a throat height of the first and second pole tips.

1 16. The head as recited in claim 15, wherein the bump has a generally circular shape.

1 17. The head as recited in claim 15, wherein the bump has a generally oval shape.

1 18. The head as recited in claim 15, wherein the bump has a generally trapezoidal
2 shape.

1 19. The head as recited in claim 15, wherein the bump tapers together towards the
2 ABS.

1 20. The head as recited in claim 15, wherein the bump extends in a direction away
2 from the ABS about to a back gap of the magnetic head.

1 21. The head as recited in claim 15, wherein the bump is constructed of alumina.

1 22. The head as recited in claim 15, wherein the bump is constructed of a
2 nonmagnetic metal.

1 23. The head as recited in claim 15, wherein the bump is constructed of cured resist.

1 24. The head as recited in claim 15, wherein the bump is formed using a dry process.

1 25. A magnetic storage system, comprising:
2 magnetic media;
3 at least one head for reading from and writing to the magnetic media, each head
4 having an air bearing surface (ABS), each head comprising:
5 a sensor;
6 a write element coupled to the sensor, the write element comprising a first
7 pole tip having an upper end, a second pole tip having a bottom
8 end spaced apart from and facing the upper end of the first pole tip,
9 and a bump extending into a portion of the upper end of the first
10 pole tip and a portion of the bottom end of the second pole tip, the
11 bump being positioned away from the ABS;
12 a slider for supporting the head; and
13 a control unit coupled to the head for controlling operation of the head.